

Serial No. 09/903,347
Art Unit 1714

AMENDMENTS TO THE SPECIFICATION:

Please amend Paragraph 36 as follows:

Specifically, the composition 200 of the present invention includes a base matrix 202 of a moldable polymer material, such as polycarbonate or liquid crystal polymer. Polycarbonate is a preferred base matrix material. The base matrix is filled with highly thermally conductive, high aspect ratio high modulus PITCH-based carbon fiber 204 as well as high strength, high aspect ratio PAN (polyacrylonitrile)-based carbon fiber 206. It is preferred that the composition 200 of the present invention have a polymer base matrix of, by volume, between 30 and 70 percent. The base matrix is preferably polycarbonate material but may also be liquid crystal polymer material. A first thermally conductive filler of high modulus PITCH-based carbon material, by volume, between 15 and 47 percent is provided in the composition that has a relatively high aspect ratio of at least about 10:1. A second filler of PAN (polyacrylonitrile)-based carbon filler is also provided to greatly improve the strength of the composition and is provided, by volume, between 10 and 35 percent and also has a high aspect ratio of at least about 10:1. The total fiber content of the composition is preferably in the range of 30 to 70 percent by volume. The ratio of the high modulus PITCH-based carbon fiber to the PAN (polyacrylonitrile)-based carbon fiber is preferably in the range of about 1:1 to 2:1. Optionally, the mixture also includes a third filler to improve the thermal conductivity of the composition which is provided, by volume, between 1 and 10 percent that has a relatively low aspect ratio of about 5:1 or less. The carbon fibers preferably have an aspect ratio exceeding about 50:1. With the foregoing disclosed ranges, high volume loading and proper wet-out can be achieved.